



PATENT
Attorney Docket No. 101.0053-00000
Customer No. 22882
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Gary K. Michelson)
Serial No.: 08/480,908) Group Art Unit: 3764
Filed: June 7, 1995) Examiner: M. Brown
For: THREADED FRUSTO-CONICAL)
INTERBODY SPINAL FUSION)
IMPLANTS)

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

THIRD REQUEST FOR INTERFERENCE UNDER 37 C.F.R. § 41.202(a)

Applicant hereby requests an interference with U.S. Patent No. 6,648,916 to McKay (hereinafter, "McKay") pursuant to 37 C.F.R. § 41.202(a). A proposed count is attached hereto.

Claims 5 and 7 of McKay correspond to claims 1 and 2, respectively, of the proposed count. Claims 193 and 194 of the present application also correspond to claims 1 and 2 of the proposed count.

Claims 193 and 194 of the present application are a copy of claims 5 and 7, respectively, of McKay. A claim chart in accordance with 37 C.F.R. § 41.202(a)(3) comparing the claims of each party corresponding to the proposed count is attached hereto. The claims interfere within the meaning of 37 C.F.R. § 41.203(a) because the subject matter of claims 193 and 194 of the present application would, if prior art, anticipate or render obvious the subject matter of claims 5 and 7, respectively, of McKay, and vice-versa.

Applicant will prevail on priority because the present application has a filing date more than two and one-half years prior to the earliest effective filing date of McKay. The earliest effective filing date of McKay is December 10, 1997. Accordingly, the

priority of the present application is *prima facie* earlier than the priority of McKay.

A claim chart in accordance with 37 C.F.R. §§ 41.202(a)(5) and (6) showing the written description in the specification for each claim added to provoke an interference, and showing where the disclosure of the present application provides a constructive reduction to practice within the scope of the interfering subject matter is attached hereto. The requirements of both 37 C.F.R. §§ 41.202(a)(5) and (6) are met in a single chart because the specification and drawings providing the basis for each of §§ 41.202(a)(5) and (6) are the same.

The Examiner is requested to declare an interference between the present application and U.S. Patent No. 6,648,916.

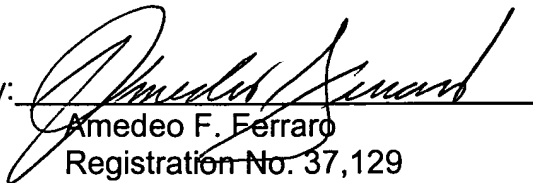
To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Request, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 50-1066.

Respectfully submitted,

MARTIN & FERRARO, LLP

Date: November 15, 2004

By: _____


Amedeo F. Ferraro
Registration No. 37,129

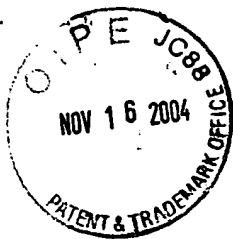
1557 Lake O'Pines Street, NE
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PROPOSED COUNT UNDER 37 C.F.R. § 41.202(a)(2)

1. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising:
 - a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;
 - said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;
 - said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;
 - an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and
 - wherein said two opposite surfaces of at least one of said opposite end pieces includes threads.
2. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising:
 - a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;
 - said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;
 - said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;
 - an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately

contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and

wherein said two opposite surfaces of each of said opposite end pieces is tapered to conform to an anatomic angle between the adjacent vertebrae.



CLAIM CHART UNDER 37 C.F.R. § 41.202(a)(3)

Claim Count Number	Claims of Application No. 08/480,908	Claims of U.S. Patent No. 6,648,916
1	<p>193. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising:</p> <p>a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;</p> <p>said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;</p> <p>said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;</p> <p>an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and</p> <p>wherein said two opposite surfaces of at least one of said opposite end pieces includes threads.</p>	<p>5. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising:</p> <p>a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;</p> <p>said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;</p> <p>said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;</p> <p>an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and</p> <p>wherein said two opposite surfaces of at least one of said opposite end pieces includes threads.</p>

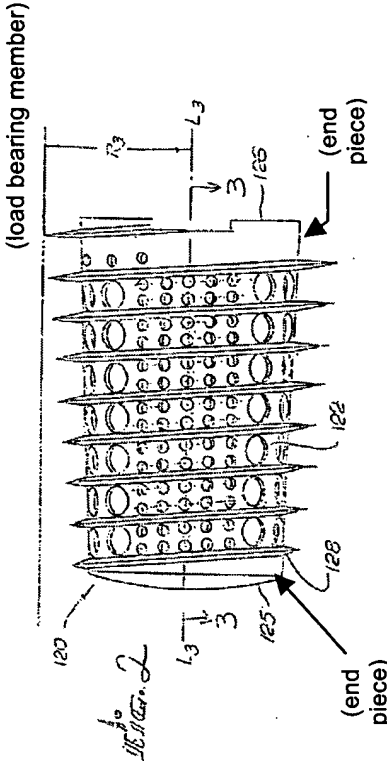
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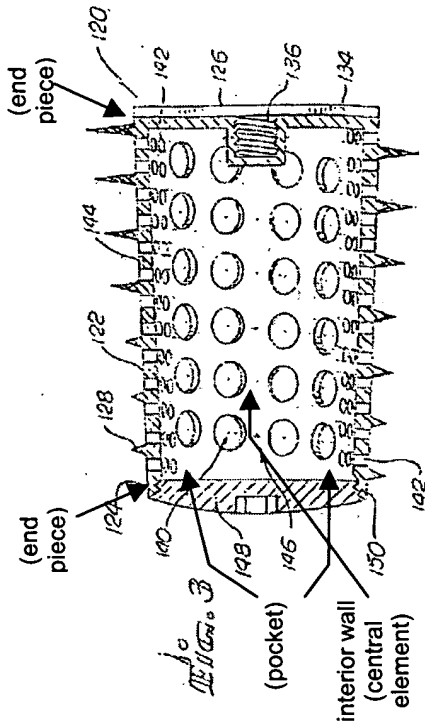
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2	<p>194. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising:</p> <p>a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;</p> <p>said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;</p> <p>said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;</p> <p>an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and</p> <p>wherein said two opposite surfaces of each of said opposite end pieces is tapered to conform to an anatomic angle between the adjacent vertebrae.</p>	<p>7. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising:</p> <p>a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;</p> <p>said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;</p> <p>said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;</p> <p>an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and</p> <p>wherein said two opposite surfaces of each of said opposite end pieces is tapered to conform to an anatomic angle between the adjacent vertebrae.</p>
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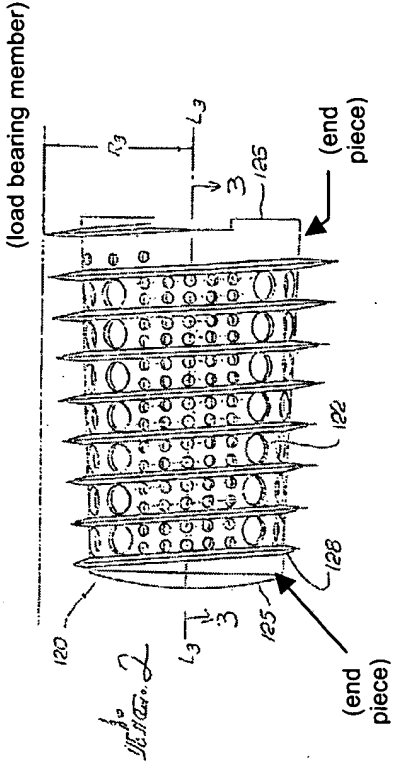
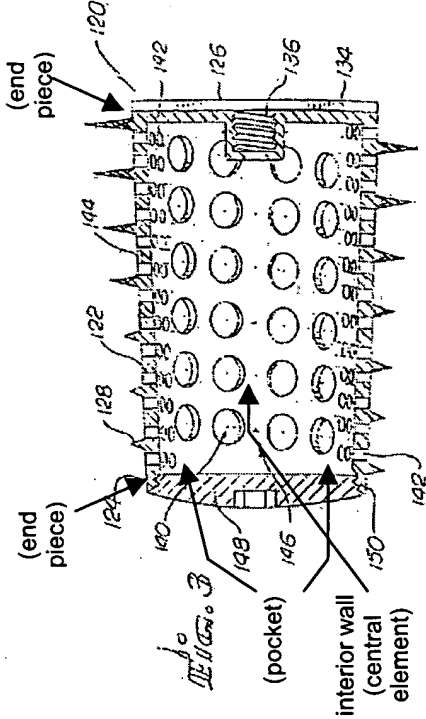
CLAIM CHART UNDER 37 C.F.R. §§ 41.202(a)(5) and (6)

Claim Count Number	Claims of Application No. 08/480,908	Description and Location in Disclosure Providing Constructive Reduction to Practice
1	<p>193. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising: a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;</p>	<p>Applicant discloses an implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae that includes a load bearing member (body 122) having opposite end pieces and an elongated central element extending between the end pieces. (See Specification, page 12, lines 2-4; and Figs. 2 and 3, labeled below with each element).</p> <p>"The implant 120 has a body 122...and has an external thread 128 having a radius R_3 measured from the central longitudinal axis L_3 of the implant 120." (Specification, page 12, lines 2-4).</p> 

	<p>(end piece)</p> <p>(end piece)</p> <p>120</p> <p>122</p> <p>124</p> <p>126</p> <p>128</p> <p>130</p> <p>132</p> <p>134</p> <p>136</p> <p>138</p> <p>140</p> <p>142</p> <p>144</p> <p>(pocket)</p> <p>interior wall (central element)</p> <p>146</p> <p>150</p> <p>142</p>
said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;	<p>The opposite end pieces disclosed by Applicant are sized to maintain the space between the adjacent vertebrae and have two opposite surfaces configured to contact and support the adjacent vertebrae. (See Specification, page 5, lines 31-33).</p> <p>"It is further another object of the present invention to provide a spinal fusion implant that is capable of spacing apart and supporting adjacent vertebrae during the spinal fusion process." (Specification, page 5, lines 31-33).</p> <p>As disclosed by Applicant, the central element is sized relative to the opposite end pieces to define a pocket (internal chamber 146) between the central element and the adjacent vertebrae when the adjacent vertebrae are supported by the opposite end pieces. (See Specification, page 3, lines 32-34; page 12, lines 12 and 13; and Fig. 3).</p>
said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;	

	<p>"The spinal fusion implants of the present invention may have at least one chamber which may be in communication through at least one opening to the surface of the implant." (Specification, page 3, lines 32-34).</p> <p>"The implant 120 has an outer wall 144 surrounding an internal chamber 146." (Specification, page 12, lines 12 and 13).</p>
<p>an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and</p>	 <p>Applicant discloses an osteogenic material having a consistency so as to be retainable about the central element and within the pocket, the osteogenic material being positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by the opposite end pieces. (See specification, page 3, line 32 to page 4, line 2; and page 5, lines 1-8).</p> <p>"The spinal fusion implants of the present invention may</p>

	<p>have at least one chamber which may be in communication through at least one opening to the surface of the implant. Said chamber may have at least one access opening for loading the chamber with fusion promoting substances." (Specification, page 3, line 32 to page 4, line 2).</p> <p>"The spinal fusion implants of the present invention may be made of a solid material, a mesh-like material, a porous material and may comprise, wholly or in part, materials capable of directly participating in the spinal fusion process, or be loaded with, composed of, treated of coated with chemical substances such as bone, morphogenic proteins, hydroxyapatite in any of its forms, and osteogenic proteins, to make them bioactive for the purpose of stimulating spinal fusion." (Specification, page 5, lines 1-8).</p> <p>As disclosed by Applicant, the two opposite surfaces of at least one of the opposite end pieces includes threads 128. (<u>See</u> Specification, page 3, lines 11-13; and Fig. 2 (above)).</p> <p>"The spinal fusion implants of the present invention have an external thread for engaging the adjacent vertebrae of the spine and have an insertion end and a trailing end." (Specification, page 3, lines 11-13).</p>
2	<p>wherein said two opposite surfaces of at least one of said opposite end pieces includes threads.</p> <p>194. An implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae, comprising: a load bearing member including opposite end pieces and an elongated central element extending between said end pieces;</p> <p>Applicant discloses an implant for promoting fusion bone growth in an intervertebral disc space between adjacent vertebrae that includes a load bearing member (body 122) having opposite end pieces and an elongated central element extending between the end pieces. (<u>See</u> Specification, page 12, lines 2-4; and Figs. 2 and 3, labeled below with each element).</p>

 <p>(load bearing member)</p> <p>Fig. 2</p> <p>120</p> <p>122</p> <p>125</p> <p>128</p> <p>124</p> <p>L3</p> <p>R3</p> <p>(end piece)</p> <p>(end piece)</p>	
 <p>(end piece)</p> <p>(end piece)</p> <p>Fig. 3</p> <p>120</p> <p>122</p> <p>125</p> <p>128</p> <p>124</p> <p>136</p> <p>134</p> <p>140</p> <p>148</p> <p>146</p> <p>150</p> <p>142</p> <p>(pocket)</p> <p>interior wall (central element)</p>	<p>said opposite end pieces sized to maintain the space between the adjacent vertebrae and having two opposite surfaces configured to contact and support the adjacent vertebrae;</p> <p>The opposite end pieces disclosed by Applicant are sized to maintain the space between the adjacent vertebrae and have two opposite surfaces configured to contact and support the adjacent vertebrae. (See Specification, page 5, lines 31-33).</p>

	<p>"It is further another object of the present invention to provide a spinal fusion implant that is capable of spacing apart and supporting adjacent vertebrae during the spinal fusion process." (Specification, page 5, lines 31-33).</p> <p>As disclosed by Applicant, the central element is sized relative to the opposite end pieces to define a pocket (internal chamber 146) between the central element and the adjacent vertebrae when the adjacent vertebrae are supported by the opposite end pieces. (See Specification, page 3, lines 32-34; page 12, lines 12 and 13; and Fig. 3).</p> <p>"The spinal fusion implants of the present invention may have at least one chamber which may be in communication through at least one opening to the surface of the implant." (Specification, page 3, lines 32-34).</p> <p>"The implant 120 has an outer wall 144 surrounding an internal chamber 146." (Specification, page 12, lines 12 and 13).</p>
<p>said central element being sized relative to said opposite end pieces to define a pocket between said central element and the adjacent vertebrae when the adjacent vertebrae are supported by said opposite end pieces;</p>	<p>an osteogenic material having a consistency so as to be retainable about said central element, said osteogenic material retained about said central element and within said pocket, said osteogenic material positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by said opposite end pieces; and</p>
	<p>Applicant discloses an osteogenic material having a consistency so as to be retainable about the central element and within the pocket, the osteogenic material being positioned to intimately contact the adjacent vertebrae when the vertebrae are supported by the opposite end pieces. (See specification, page 3, line 32 to page 4, line 2; and page 5, lines 1-8).</p> <p>"The spinal fusion implants of the present invention may have at least one chamber which may be in communication through at least one opening to the surface of the implant. Said chamber may have at least one access opening for loading the chamber with fusion</p>

	<p>promoting substances." (Specification, page 3, line 32 to page 4, line 2).</p> <p>"The spinal fusion implants of the present invention may be made of a solid material, a mesh-like material, a porous material and may comprise, wholly or in part, materials capable of directly participating in the spinal fusion process, or be loaded with, composed of, treated of coated with chemical substances such as bone, morphogenic proteins, hydroxyapatite in any of its forms, and osteogenic proteins, to make them bioactive for the purpose of stimulating spinal fusion." (Specification, page 5, lines 1-8).</p> <p>As disclosed by Applicant, the two opposite surfaces of each of the opposite end pieces is tapered to conform to an anatomic angle between the adjacent vertebrae. (See Specification, page 5, lines 14-16; and Fig. 3).</p> <p>"It is another object of the present invention to provide a spinal fusion implant that tapers in height from one end to the other consistent with the taper of a normal spinal disc." (Specification, page 5, lines 14-16).</p>
<p>wherein said two opposite surfaces of each of said opposite end pieces is tapered to conform to an anatomic angle between the adjacent vertebrae.</p>	<p>Figure 3 is a cross-sectional diagram of a spinal fusion implant assembly. The diagram shows a central 'load bearing member' (120) with a tapered portion (122) and end pieces (125, 128). The end pieces are tapered to conform to the anatomic angle between adjacent vertebrae (L3, L4). The diagram is labeled 'Fig. 3' and includes a 'tapered portion' label.</p>



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